

ABSTRACT

An aluminum titanate-based ceramic article having a composition comprising u (Al_2O_3 - TiO_2) + v (R) + w ($3\text{Al}_2\text{O}_3$ - 2SiO_2) + x (Al_2O_3) + y (SiO_2) + z (1.1SrO - $1.5\text{Al}_2\text{O}_3$ - 13.6SiO_2 - TiO_2) + a (Fe_2O_3 - TiO_2) + b (MgO - 2TiO_2), where, R is SrO - Al_2O_3 - 2SiO_2 or 11.2SrO - $10.9\text{Al}_2\text{O}_3$ - 24.1SiO_2 - TiO_2 , where u, v, w, x, y, z, a and b are weight fractions of each component such that ($u+v+w+x+y+z+a+b=1$), and $0.5 < u \leq 0.95$, $0.01 < v \leq 0.5$, $0.01 < w \leq 0.5$, $0 < x \leq 0.5$, $0 < y \leq 0.1$, $0 < z \leq 0.5$, $0 < a \leq 0.3$, and $0 < b \leq 0.3$. A method of forming the ceramic article is provided. The ceramic article is useful in automotive emissions control systems, such as diesel exhaust filtration.